

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Applicant : Stephen J. Barenkamp  
 Appl'n. No. : 09/155,614  
 Filed : September 30, 1998  
 Title : HIGH MOLECULAR WEIGHT SURFACE PROTEINS  
 OF NON-TYPEABLE HAEMOPHILUS  
 Grp./A.U. : 1645  
 Examiner : J. Graser  
 Docket No. :  
 Date : March 5, 2002

The Commissioner of Patents  
 and Trademarks,  
 Washington, D.C. 20231,  
 U.S.A.

**PRELIMINARY AMENDMENT**

Sir:

Please amend the above-identified application as follows:

**In the Specification:**

On page 1, after the title, insert:

**"REFERENCES TO RELATED APPLICATIONS**

This application is a United States National Phase filing under 35 USC 371 of PCT/US97/04707 filed April 1, 1997, which claimed Paris Convention priority from US Patent Application No. 08/617,697 filed April 1, 1996 (now US Patent No. 5,977,336), which itself was a continuation-in-part of US Patent Application No. 08/302,832 filed September 16, 1994 (now US Patent No. 5,603,938), which itself was a United States National Phase filing under 35 USC 371 of PCT/US93/02166 filed March 16, 1993, which claimed Paris Convention priority from GB 9205704.1 filed March 16, 1992."

In the Claims:

Add new claims 14 to 20 as follows.

14. (New) An isolated and purified nucleic acid molecule coding for a high molecular weight protein selected from the group consisting of HMW1, HMW2, HMW3 and HMW4 of a non-typeable *Haemophilus* strain or an immunogenic fragment thereof.

15. (New) A vector for transformation of a host cell comprising the nucleic acid molecule of claim 14.

16. (New) An isolated and purified nucleic acid molecule encoding a high molecular weight protein of a non-typeable strain of *Haemophilus*, which is selected from the group consisting of:

- (a) a DNA sequence as shown in any one of Figures 1, 3, 8 and 9 (SEQ ID Nos: 1, 3, 7 and 8);
- (b) a DNA sequence encoding an amino acid sequence as shown in any one of Figures 2, 4 and 10 (SEQ ID Nos: 2, 4, 9 and 10); and
- (c) a DNA sequence which hybridizes under stringent conditions to any one of the sequences of (a) and (b).

17. (New) The nucleic acid molecule of claim 16 wherein the DNA sequence has at least about 90% sequence identity to any one of the sequences of (a) and (b).

18. (New) A vector for transformation of a host cell comprising the nucleic acid molecule of claim 16.

19. (New) A method for the production of an isolated and purified high molecular weight protein of a strain of non-typeable *Haemophilus*, which comprises:

- assembling an expression vector containing the nucleic acid molecule of claim 16 and a promoter operatively coupled to said nucleic acid molecule,
- transforming a host cell with the expression vector,
- expressing the high molecular weight protein in the host cell, and
- isolating and purifying the expressed high molecular weight protein.

20. (New) The method of claim 19 wherein said isolated and purified high molecular weight protein is formulated along with a pharmaceutically-acceptable carrier therefor into an immunogenic composition.

**REMARKS/ARGUMENTS**

The References to Related Applications have been added to page 1, with an update on the status of the US Patent Applications.

New Claims 14 to 20, which, it is submitted, find clear basis in the application as filed, for example, on pages 2 to 5, have been added to better protect the applicants invention.

Attached hereto is a marked-up version of the changes made to the specification and claims by the current amendment. The attached page is captioned "**Version with markings to show changes made.**"

Respectfully submitted,



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March 8, 2002

Appl. No. 09/155,614

**VERSION WITH MARKINGS TO SHOW CHANGES MADE**

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Hmw3.com	KTSSSVNITG	DLNTINGLNI	ISENGRNTVR	LRGKEIDVKY	IQPGVASVEE	
Hmw4.com	KTSSSVNITG	DLNTINGLNI	ISENGRNTVR	LRGKEIDVKY	IQPGVASVEE	
Hmw1.com	TTSSRVNITG	DLTITINGLNI	ISKNGINTVL	LKGVKIDVKY	IQPGIASVDE	
Hmw2.com	ATSSSVNITG	DLNTVINGLNI	ISKDGRNTVR	LRGKEIEVKY	IQPGVASVEE	
	1551				1600	
Hmw3.com	VIEAKRVLEK	VKDLSDERE	TLAKLGVSAY	RFVEPNNAIT	VNTQNEFTTK	
Hmw4.com	VIEAKRVLEK	VKDLSDERE	TLAKLGVSAY	RFVEPNNAIT	VNTQNEFTTK	
Hmw1.com	VIEAKRILEK	VKDLSDERE	ALAKLGVSAY	RFIEPNNTIT	VDTONFETR	
Hmw2.com	VIEAKRVLEK	VKDLSDERE	TLAKLGVSAY	RFVEPNNTIT	VNTQNEFTTR	
	1601				1632	
Hmw3.com	PSSQVTISEG	KACFSSGNGA	RVCTNVADDG	QQ	(SEQ ID No: 9)	
Hmw4.com	PSSQVTISEG	KACFSSGNGA	RVCTNVADDG	QQ	(SEQ ID No: 10)	
Hmw1.com	PLSRIVISEG	RACFNSDGA	TVCVNIADNG	R.	(SEQ ID No: 2)	
Hmw2.com	PSSQVIISEG	KACFSSGNGA	RVCTNVADDG	QP	(SEQ ID No: 4)	

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